CRYSTAL ORIENTED CERAMICS AND PRODUCTION METHOD OF SAME

ABSTRACT OF THE DISCLOSURE

The present invention provides crystal oriented ceramics, and a production method of the same, having a basic composition of isotropic perovskite-based potassium sodium niobate, demonstrating superior piezoelectric characteristics, and having a specific crystal plane oriented to a high degree of orientation. The crystal oriented ceramics as claimed in the present invention is composed of a polycrystalline substance of an isotropic perovskite compound represented by the general formula: $\{Li_x(K_{1-y}Na_y)_{1-x}\}\{Nb_{1-z-w}Ta_zSb_w\}O_3$ (wherein, $0 \leq x \leq 0.2$, $0 \leq y \leq 1$, $0 \leq z \leq 0.4$, $0 \leq w \leq 0.2$, $x + z + w > 0$), and a specific crystal plane of each crystal grain that composes said polycrystalline substance is oriented. Such crystal oriented ceramics are obtained by molding a mixture of a first anisotropic shaped powder, for which the growth plane has lattice coherency with a specific crystal plane of the isotropic perovskite compound to be produced, and a first reaction raw material, so that the first anisotropic shaped powder is oriented, followed by heating.